# Parag Jain

Email: parag.jain@ed.ac.uk Web: parajain.github.io

## Education

University of Edinburgh

Sept 2019 - Current

PhD, Natural Language Processing, Advisor: Prof. Mirella Lapata

Indian Institute of Technology Hyderabad, India

July 2013 - June 2015

CGPA: 8.92/10

CGPA: 8.1/10

CGPA: 7.5/10

M.Tech, Computer Science & Engg, Advisor: Prof. Vineeth N Balasubramanian

Thesis: Metric Learning for Clustering in Streaming Large-Scale Data - link

Collaborated with Dr. TVS Udaya Bhaskar (INCOIS, India) on Ocean Biome Classification

Awarded A+ (highest possible) for research thesis

Indian Institute of Technology Kharagpur, India

M.Tech, Multimedia Information Processing

Completed one year coursework

July 2012 - June 2013

Jabalpur Engineering College, India

B.E., Computer Science & Engg

July 2008 - June 2012

Industry Experience

**IBM Research** Research Engineer Feb 2018 - Sept 2019

IBM Research

Research Software Engineer (FTH)

July 2015 -Aug 2016

Software Development Engineer

Aug 2016 - Feb 2018

## Teaching Experience

Tutor, University of Edinburgh

Jan 2021 - Apr 2021

July 2013 - June 2015

Natural Language Understanding, Generation, and Machine Translation

Teaching Assistant, IIT Hyderabad

Numerical Linear Algebra,

Database Management Systems,

Adv. Compiler Design

### Travel Grants

- Travel Grant by Facebook AI Research to present our work at EurNLP 2019
- Travel Grant by Xerox Research for attending XRCI Open, Bangalore 2016
- Travel Grant for attending the Fifth User Interaction Workshop at INCOIS, Hyderabad 2015

### Awards

- Nominated by the University of Edinburgh (one of two) for Google PhD Fellowship 2020
- IBM Second Invention Plateau Award 2019
- IBM First Invention Plateau Award 2019
- $\bullet$  Equity Award for outstanding~achievement in research and development. 2018 (An individual award selected globally every year by the CEO of IBM.)
- IBM Research First Patent Award 2018
- IBM Research Certificate of Appreciation (for my contribution in Natural Language Generation Research) 2018
- Finalist Amazon Idea hackathon, Hyderabad 2016
- Ministry of Human Resource Development Scholarship by Government of India, 2013 2015

- Ministry of Human Resource Development Scholarship by Government of India, 2012
- Selected for the prestigious All India Young Jaina Award 2010.

### **Publications**

#### Journal

- <u>Jain, P.</u>, Lapata, M. <u>Memory-Based Semantic Parsing</u> - (Transactions of the Association for Computational Linguistics 2021)
- Laha, A.\*, Jain, P.\*, Mishra, A.\*, Sankaranarayanan, K.

  Scalable Micro-planned Generation of Discourse from Structured Data (Computational Linguistics Journal 2019)

  USED FOR VERBALIZING REAL-TIME MATCH INSIGHTS AT THE US OPEN. 
  [WEB ARTICLE] [US Open]

#### Conference Proceedings

- Perez-Beltrachini, L., Jain, P., Monti, E., Lapata, M., Semantic Parsing for Conversational Question Answering over Knowledge Graphs (EACL 2023)
- Mittal, A., Saha, D., Jain, P., Sen, J., Jammi., M.,

  Bootstrapping Chatbot Interfaces to Databases Overnight (CODS-COMAD 2021)
- Jain, P., Mishra, A., Azad, A.P. and Sankaranarayanan, K. <u>Unsupervised Controllable Text Formalization</u> (AAAI 2019)
- Surya, S., Mishra, A., Laha, A., Jain, P., Sankaranarayanan, K. Unsupervised Neural Text Simplification - (ACL 2019)
- Agrawal, P., Jain, P., Dalmiya, A., Mittal, A.
   Unified Semantic Parsing with Weak Supervision (ACL 2019)
- Jain, P., Laha, A., Sankaranarayanan, K., Nema, P., Khapra, M.M. and Shetty, S.,

  A Mixed Hierarchical Attention based Encoder-Decoder Approach for Standard Table Summarization (NAACL-HLT 2018, Short Paper)
- Nema, P.\*, Jain, P.\*, Shetty, S., Laha, A., Sankaranarayanan, K. and Khapra, M.M., Generating Descriptions from Structured Data Using a Bifocal Attention Mechanism and Gated Orthogonalization (NAACL-HLT 2018)

#### Workshop/Extended Abstract/Demo

- Jain, P., Agrawal, P.
   Unified Semantic Parsing with Weak Supervision (EurNLP 2019)
- Jain, P., Agrawal, P., Mishra, A., Sukhwani, M., Laha, A. and Sankaranarayanan, K., Story Generation from Sequence of Independent Short Descriptions (SIGKDD Workshop ML4Creativity, 2017)
- Bharadwaj, S. et al. [and others, including <u>Jain</u>, <u>P.</u>]

  Creation and Interaction with Large-scale Domain-Specific Knowledge Bases (VLDB 2017, Demonstrations Track)
- <u>Jain, P.</u>, Balasubramanian, V.N. <u>Online Active Metric Learning for Clustering</u> (XRCI OPEN 2016)

#### Tutorial

• Storytelling from Structured Data and Knowledge Graphs: An NLG Perspective Presented at the Annual Meeting of the Association for Computational Linguistics (ACL), 2019

#### Technical report/Preprint

- Jain, P.

  <u>Unsupervised Metric Learning Using Low Dimensional Embedding</u>
- Jain, P. <u>Metric Learning Tutorial</u>

### Selected Patents

- Mittal, A., Jain, P., Saha, D., Sen, J.

  Ontology-Based Automatic Bootstrapping of State-Based Dialog Systems US Patent App. US20190228068A1
- Khare, S., Jain, P., Dechu, S., Mani, S., Tamilselvam, S.G Enabling Tactile Senses in Digital Shopping US Patent App. US20190163272A1
- Jain, P., Azad, A.P Mishra, A., Sankaranarayanan, K. Unsupervised Tunable Stylized Text Transformation - US Patent App. US20200034432A1

<sup>\*</sup> equal contribution

- Jain, P., Laha, A., Mishra, A., Sankaranarayanan, K.
   Generation of Variable Natural Language Descriptions From Structured Data US Patent App. US20200073944A1
- Sankaran, A., Laha, Lohia, P., Jain, P., Shrivastava, D., Agrawal, P.

  Cognitive Assistant for Co-Generating Creative Content US Patent Application No. US20200134089A1
- Laha, A., Ekambaram, V., Jain, P., Shrivastava, D.

  Displaying dynamic content on multiple devices US Patent Application No. US10664217B1
- Chemmengath, S., Jain, P., Laha, A., Krishnan, A.
   Script modification US Patent Application No. US20200125638A1
- Jain, P., Laha, A., Mishra, A., Sankaranarayanan, K. Structured Article Generation US Patent Application No. US11194816B2

### Talks

- (Invited Talk) Conversational Semantic Parsing Online International. Conference. On. Advances in Physical, Mathematical and Computational Sciences, India - 2022
- (Invited Talk) Introduction to Machine Learning Christ University Bangalore, 2018
- Metric Learning for Clustering in Streaming Large-Scale Data IBM Bangalore, 2016
- Introduction to PageRank, IIT Hyderabad, 2015

### Service

- Program Committee for ACL, EMNLP, SIGKDD, Cods-Comad
- $\bullet$  Organizing team TEDxIITHy derabad, 2016
- Coordinator for i.school workshop University of Tokyo, at IIT Hyderabad
- Student placement coordinator CSE Department IIT Hyderabad
- Core member of organizing team Aureole'10 Engineering Techfest

### Mentorship

- Akash Kumar, Software Engineering intern at IBM (now PhD student at UCSD) Project: Tabular Data Summarization
- Aman Sinha, Software Engineering intern at IBM (now Research Assistant at IECL Laboratory, University of Lorraine)
  Project: Scheduled Multi-Task Learning for Semantic Parsing

### Relevant Coursework

- PhD, Edinburgh Pragmatics, Controversies in the Data Society, Accelerated Natural Language Processing, Machine Learning and Pattern Recognition
- M.Tech, IITH Hadoop, Advanced Algorithms and Data Structures, Mathematics for Computing, Systems Security

### Arts Education

- Diploma (VID I) Violin(Indian Classical Music) from Raja Mansingh Tomar Music & Arts University, India.
- Green Belt in Karate from Jabalpur Amateur Karate do association affiliated to Nepal Karate Do Federation.

### Training and Certifications

- IBM Certified Academic Associate, -DB2 9 Database and Application Fundamentals (ID: PR1587378)
- IBM Certified Deployment professional, -Tivoli Directory Server V6.3 (ID: PR1587378)
- Training on Computer Networking, -CMC Academy, Jabalpur (45 days)